

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants	:	Fraenkel, et al.
Appl. No.	:	10/057,295
Filed	:	October 19, 2001
For	:	POST-DEPLOYMENT MONITORING AND ANALYSIS OF SERVER PERFORMANCE
Examiner	:	Michael Young Won
Group Art Unit	:	2155

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**REPLY BRIEF**

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This Reply Brief is responsive to the Examiner's Answer in the present application, and supplements the arguments made in Appellants' Second Appeal Brief. All of the claims addressed in this Reply Brief stand rejected on anticipation grounds over Maccabee et al. (U.S. Pat. 6,108,700, hereinafter "Maccabee"). By limiting their supplemental arguments to specific claims and claim limitations, Appellants do not imply an agreement with the Examiner's assertions made with respect to other claims and claim limitations.

**Independent Claim 1**

Claim 1 reads as follows:

1. A method of monitoring the operation of a deployed web site system, the method comprising:

(a) monitoring response times of a web site system as seen from multiple geographic locations, including locations that are geographically remote from each other and from the web site system;

(b) concurrently with (a), monitoring a plurality of server resource utilization parameters associated with the web site system from a computer that is local to the web site system; and

(c) automatically analyzing the response times and server resource utilization parameters as monitored in (a) and (b) over a selected time period to evaluate whether a correlation exists between changes in the response times and changes in values of the plurality of server resource utilization parameters.

In the Second Appeal Brief, Appellants argued that the rejection of Claim 1 is improper because, among other reasons, Maccabee does not explicitly or inherently disclose the limitations of subparagraph (c). In response, the Examiner points to portions of Maccabee that describe how recorded events are associated or “correlated” with other events that are part of the same transaction. The Examiner also observes that Maccabee uses “correlation data” to correlate the events, and that this correlation data “can be any data which represents a common thread running through a transaction and which ...can be used to associate the event with other events into transactions.” Maccabee at col. 4, line 67 to col. 5, line 3. The Examiner also points to portions of Maccabee that disclose that the correlated events are ultimately used to assess the performance, including the response time, of the system that executes the transaction. See Examiner’s Answer at page 19, second full paragraph, citing col. 3, lines 25-30 and 34-35; col. 4, line 67 to col. 5, line 3; and col. 8, lines 3-4 and lines 29-32 of Maccabee.

According to the Examiner, these portions of Maccabee reveal that Maccabee’s process of using “correlation data” to correlate events meets the limitations of subparagraph (c) of Claim 1. Appellants respectfully disagree. Maccabee gives the following examples of what may be used as the correlation data: IP address, socket ID, file handle, database name, document number, user ID, machine ID, process ID, thread ID, and application ID. Maccabee at col. 4, lines 61-67. As none of these examples includes or remotely resembles either “changes in response times” or “changes in values of the plurality of server resource utilization parameters,” Maccabee’s use of correlation data clearly does not involve the following limitations of subparagraph (c) “analyzing the response times and server resource utilization parameters...to evaluate whether a correlation exists between changes in the response times and changes in values of the plurality of server resource utilization parameters.” That Maccabee’s system may ultimately use the correlated events and event timestamps to assess transaction performance (including system response times) does not change this fact.

Indeed, Maccabee's process of correlating events has a very different purpose than that of subparagraph (c). That purpose is to identify the recorded events—including events reported by sensors at various locations—that are associated with a particular business transaction initiated by a user. See Maccabee at col. 4, lines 41-46. By grouping these events together, Maccabee's system can apparently reconstruct stages of the transaction, and assess the performance of the transaction-execution system at the transaction level. In contrast, subparagraph (c) of Claim 1 is directed to assessing whether changes in the monitored system's response times are correlated with changes in values of server resource parameters. As disclosed in the present application, this enables the root causes of certain types of performance degradations to be identified.

Maccabee achieves its purpose of correlating events with transactions by using identifiers of the user, machine, connection, accessed document, application, process, etc., as recorded on an event-by-event basis, to identify events performed as part of the same transaction. Nothing in Maccabee suggests that this purpose could somehow be achieved by detecting correlations between changes in response times and changes in values of server resource utilization parameters. Further, nothing in Maccabee indicates that the events being correlated are themselves "changes in response times" and "changes in server resource utilization parameters," or that event data descriptive of response time and server resource utilization measurements is used as a basis for correlation.

The Examiner also asserts that it is inherent that changes in response times are related to changes in values of a plurality of server resource utilization parameters. Examiner's Answer at page 20, first full paragraph. Even if this statement were true, however, it does not follow that Maccabee explicitly or inherently discloses the limitations at issue. Appellants also respectfully submit that this assertion is inaccurate to the extent the Examiner may be suggesting that *all* changes in response times are the result of changes in one or more server resource utilization parameters.

For the foregoing reasons, and the reasons explained in the Second Appeal Brief, Appellants submit that the anticipation rejection of Claim 1 is improper.

Dependent Claim 11

Claim 11 depends from Claim 1 and adds the following limitations: “applying a statistical algorithm to a sequence of response time measurements resulting from (a) to automatically detect a degradation in performance.” In connection with these limitations, the Examiner’s Answer cites the disclosure at col. 13, line 18 of an “algorithm,” and cites col. 15, lines 38–40. Examiner’s Answer at section (c), beginning on page 20. As neither of these cited portions involves the application of a statistical algorithm to a sequence of response time measurements to detect a performance degradation, they do not support the rejection.

Dependent Claim 12

Claim 12 depends for Claim 11 and adds the following limitations: “processing server resource utilization measurements resulting from (b) to identify at least one server resource parameter having a correlation with the degradation in performance.” In connection with these limitations, the Examiner asserts that the events correlated in Maccabee include “availability, performance (response time), capacity, and utilization metrics,” citing col. 3, lines 25–29. Appellants respectfully disagree. Although Maccabee may disclose the use of the correlated events to assess such metrics, Maccabee does not disclose that the events themselves include or represent these metrics. In addition, even if the events in Maccabee were to include measurements of a server resource parameter, nothing in Maccabee suggests that an assessment would be made as to whether a correlation exists between this server resource parameter and a degradation in performance. For at least these reasons, the cited portion of Maccabee does not support the rejection of Claim 12.

Independent Claim 13

Independent Claim 13 reads as follows:

13. A system for monitoring performance of a deployed transactional server, the system comprising:

a first agent configured to monitor a transactional server over a network, the first agent collecting performance data including response times of the transactional server;

a second agent configured to monitor server resource utilization of the transactional server, the second agent collecting data on one or more server resource utilization parameters, wherein the second agent monitors

server resource utilization over a time period in which the first agent monitors the transactional server; and  
an analysis component that automatically detects correlations between response times of the transactional server as monitored by the first agent and particular server resource utilization parameters as monitored by the second agent.

In the Second Appeal Brief, Appellants argued that the anticipation rejection of Claim 13 is improper because Maccabee does not disclose “an analysis component that automatically detects correlations between response times of the transactional server as monitored by the first agent and particular server resource utilization parameters as monitored by the second agent.” In response, the Examiner refers back to section (b) at page 19 of the Examiner’s Answer. Subsection (b) of the Answer is directed to subparagraph (c) of Claim 1, and is discussed above in Appellants’ discussion of Claim 1. In view of that discussion, Appellants submit that Maccabee’s process of using correlation data to correlate events does not meet the above-quoted limitations of Claim 13.

Independent Claim 20

Claim 20 reads as follows:

20. A method for monitoring the performance of a transactional server, the method comprising:
- receiving performance data from a plurality of computers geographically distributed across a network, the plurality of computers executing transactions on a transactional server while monitoring associated response times;
  - receiving server resource utilization data from a computer that monitors server resource utilization of the transactional server during execution of the transactions by the plurality of computers; and
  - automatically analyzing the performance data and the server resource utilization data to detect correlations between the performance of the transactional server and one or more particular server resource utilization parameters.

In the Second Appeal Brief, Appellants argued that the anticipation rejection of Claim 20 is improper because, among other reasons, Maccabee does not disclose “receiving performance data from a plurality of computers geographically distributed across a network, the plurality of computers executing transactions on a transactional server while monitoring associated response

times.” In response, the Examiner points to Maccabee’s disclosure of an Event Generation component 501 that includes an Agent 505 (Fig. 2), and points to the Event Generator 600 disclosed in (Fig. 3). Examiner’s Answer at page 24, first full paragraph. Appellants submit that this disclosure does not meet the above-quoted limitations at least because nothing in Maccabee suggests that any of these components 501, 505, and 600 run on computers that “execut[e] transactions on a transactional server while monitoring associated response times.” The Examiner’s Answer does not fully address these limitations.

Appellants also argued that the anticipation rejection of Claim 20 is improper because Maccabee does not disclose “automatically analyzing the performance data and the server resource utilization data to detect correlations between the performance of the transactional server and one or more particular server resource utilization parameters.” In connection with this claim language, the Examiner again refers back to section (b) of the Answer. In view of Appellants’ discussion of section (b), Appellants submit that the portions of Maccabee cited therein do not disclose the foregoing limitations of Claim 20. More specifically, Maccabee’s process of using correlation data (user IDs, machine IDs, etc.) to associate events with specific transactions does not involve either “automatically analyzing the performance data and the server resource utilization data” or the detection of “correlations between the performance of the transactional server and one or more particular server resource utilization parameters.”

#### Independent Claim 25

Claim 25 reads as follows:

25. A method of monitoring the operation of a deployed transactional server, the method comprising:

- (a) monitoring response times of the transactional server as seen from multiple geographic locations, including locations that are geographically remote from each other and from the transactional server;
- (b) concurrently with (a), monitoring a plurality of server resource utilization parameters associated with the transactional server; and
- (c) programmatically evaluating whether a correlation exists between changes in the response times and changes in values of the plurality of server resource utilization parameters over time.

In the Second Appeal Brief, Appellants argued that the anticipation rejection of Claim 25 is improper because, among other reasons, Maccabee does not disclose “programmatically evaluating whether a correlation exists between changes in the response times and changes in values of the plurality of server resource utilization parameters over time.” In response, the Examiner again refers back to section (b) at page 19 of the Examiner’s Answer. In view of the discussion the section (b) above (see analysis of Claim 1), Appellants submit that Maccabee’s process of using correlation data to correlate events does not meet the above-quoted limitations of Claim 25.

Independent Claim 33

Claim 33 reads as follows:

33. A computer-implemented method of analyzing the performance of a server system, the method comprising:
- monitoring a first performance parameter of the server system over a period of time to generate a series of values of the first performance parameter, wherein the server system responds to requests from clients during said period of time;
  - monitoring a second performance parameter of the server system over said period of time to generate a series of values of the second performance parameter; and
  - automatically analyzing the values of the first and second performance parameters to evaluate whether a correlation exists between the first performance parameter and the second performance parameter.

In the Second Appeal Brief, Appellants argued that the anticipation rejection of Claim 33 is improper because Maccabee does not disclose, in the context of the other limitations of the claim, “automatically analyzing the values of the first and second performance parameters to evaluate whether a correlation exists between the first performance parameter and the second performance parameter.” In response, the Examiner again refers back to section (b) of the Answer, which addresses Claim 1. In view of Appellants’ discussion of section (b) of the Answer, Appellants submit that the portions of Maccabee cited therein do not disclose the foregoing limitations of Claim 33. In this regard, the correlation data used in Maccabee to correlate events does not meet the limitation “values of the first and second performance parameters.” Indeed, none of the examples of “correlation data” given in Maccabee is a performance parameter value.

Dependent Claim 34

Claim 34 depends from independent Claim 33 and adds the following limitations: “wherein the first performance parameter is a response time parameter.” In connection with this claim, the Examiner points to Maccabee’s disclosure of “response time” at col. 3, line 29. Examiner’s Answer at section (p) on page 26. Appellants submit that this disclosure of a “response time” does not support the rejection because nothing in Maccabee suggests using a response time parameter as the “first performance parameter” in the following step of Claim 33: “automatically analyzing the values of the first and second performance parameters to evaluate whether a correlation exists between the first performance parameter and the second performance parameter.”

Conclusion

For the reasons set forth in the Second Appeal Brief, and the additional reasons provided above for selected claims and claim limitations, Appellants respectfully submit that the rejections of Claims 1-39 are improper and request that these rejections be reversed.

Respectfully submitted,

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